

**COUNTY OF SAN LUIS OBISPO BOARD OF SUPERVISORS
AGENDA ITEM TRANSMITTAL**

(1) DEPARTMENT Public Works	(2) MEETING DATE 2/26/2013	(3) CONTACT/PHONE Dean Benedix, Utilities Division Manager (805) 781-5252	
(4) SUBJECT Discussion of Los Osos Landfill groundwater contamination corrective action plan; proposal for a Groundwater Remediation System ("Pump and Treat"). District 2.			
(5) RECOMMENDED ACTION It is our recommendation that your Honorable Board considers directing staff to incorporate a "Pump and Treat" groundwater remediation program into the 2013-2014 budget for the Los Osos Landfill.			
(6) FUNDING SOURCE(S) Waste Management Budget	(7) CURRENT YEAR FINANCIAL IMPACT \$203,603.00	(8) ANNUAL FINANCIAL IMPACT \$75,000 - \$105,000	(9) BUDGETED? No
(10) AGENDA PLACEMENT <input type="checkbox"/> Consent <input type="checkbox"/> Presentation <input type="checkbox"/> Hearing (Time Est. _____) <input checked="" type="checkbox"/> Board Business (Time Est. 45 min)			
(11) EXECUTED DOCUMENTS <input type="checkbox"/> Resolutions <input type="checkbox"/> Contracts <input type="checkbox"/> Ordinances <input checked="" type="checkbox"/> N/A			
(12) OUTLINE AGREEMENT REQUISITION NUMBER (OAR) N/A		(13) BUDGET ADJUSTMENT REQUIRED? BAR ID Number: N/A <input type="checkbox"/> 4/5th's Vote Required <input checked="" type="checkbox"/> N/A	
(14) LOCATION MAP No	(15) BUSINESS IMPACT STATEMENT? No	(16) AGENDA ITEM HISTORY <input type="checkbox"/> N/A Date 12/06/11; #16	
(17) ADMINISTRATIVE OFFICE REVIEW <i>Nikki J. Schmidt</i>			
(18) SUPERVISOR DISTRICT(S) District 2 -			

13FEB26-BB-1

County of San Luis Obispo



TO: Board of Supervisors

FROM: Public Works
Dean Benedix, Utilities Division Manager

VIA: Paavo Ogren, Director of Public Works

DATE: 2/26/2013

SUBJECT: Discussion of Los Osos Landfill groundwater contamination corrective action plan; proposal for a Groundwater Remediation System ("Pump and Treat"). District 2.

RECOMMENDATION

It is our recommendation that your Honorable Board considers directing staff to incorporate a "Pump and Treat" groundwater remediation program into the 2013-2014 budget for the Los Osos Landfill.

DISCUSSION

The Los Osos Landfill is a closed solid waste disposal site located at 2285 Turri Road, approximately 1.5 miles northeast of the unincorporated community of Los Osos (Site Map, Exhibit "A"). The site was an active landfill from December 1958 through November 1988, accepting approximately 838,000 tons of refuse.

Operational History and County Acquisition

Disposal operations began in December 1958 when the County leased the property from its owner and subleased it to an operator for the purpose of providing disposal services to North Coast residents. In 1978 the County entered into a new lease with the property owner which outlined the County's responsibility to leave the premises in a condition that would pass all state and county health laws, rules and regulations, concerning waste disposal sites. The lease has been subsequently renewed with changes of property ownership. The terms of the current lease continued the assigned responsibility for maintaining the landfill premises to meet all State and County health laws, rules and regulations to the County once waste disposal operations ceased.

Post Closure Mitigation Efforts

Post closure mitigation efforts are required due to a plume of contaminants that extend beyond the approximate limit of buried refuse as shown in Exhibit "C." The plume has remained relatively stable over 25 years, however, post closure mitigation efforts continue due to its existence.

Mitigation efforts have been conducted under regulatory compliance requirements (Exhibit “B,” History). Since the 1980’s, the County has worked with the Regional Water Quality Control Board (RWQCB) to conduct several corrective action programs focused on removing contaminants from groundwater directly beneath, and adjacent to the site, attributable to the landfill. Exhibit “C” illustrates the boundaries of the landfill and the extent to which the plume of contaminants extends beyond “the point of compliance,” or the edge of the buried refuse. Mitigation efforts throughout the years at the site have included:

- The construction of 16 groundwater monitoring wells and ongoing semiannual collection and analysis program.
- The construction and ongoing maintenance of an approved closure and barrier cap over the entire site.
- The construction and ongoing operation and maintenance of a landfill gas collection and removal system, consisting of 20 gas collection wells, approximately one mile of gas collection lines, and a gas destruction flare facility.
- Ongoing and continuous programs of monitoring and reporting of operations to oversight agencies.

In 2005, the RWQCB requested submittal of an updated Corrective Action Program in order to evaluate alternatives which could further reduce levels of Volatile Organic Compounds (VOC’s) in groundwater at the site. As a result, the Department contracted with a hydrogeological engineering firm (Geologic Associates) to conduct an in depth Engineering Feasibility Study to evaluate possible mitigation methods.

2006 Engineering Feasibility Study and 2008 Bio-Enhancement Pilot Program

In 2006, the Department conducted an Engineering Feasibility Study (EFS) and in 2008, implemented a bio-remediation mitigation pilot program as a result of the conclusions of the study. The Bio-Enhancement Pilot Study performed by Geologic Associates found the nature of the soil and aquifer at this location **not suitable** for a full scale bio-enhancement project, and cited a high degree of naturally occurring, or “intrinsic remediation” of the contaminants. The Department incorporated the results and conclusions of the Pilot Program into a revised Corrective Action Work Plan based on intrinsic remediation, and submitted the revised plan to the RWQCB on July 10, 2008, along with the Department’s intent to follow the revised plan unless otherwise directed by RWQCB. The revised plan outlined a four step approach which included:

1. Intrinsic remediation - allows naturally occurring processes to continue reducing levels of contaminants in soil and groundwater.
2. Cover and drainage enhancements – additional fill material was placed on the landfill and graded for maximum drainage in 2008.
3. Monitoring and evaluation – all monitoring wells continue to be sampled and evaluated in accordance with Regional Board’s waste discharge requirements (WDR R3-2007-0023).
4. Operation of the landfill gas system – this system continues to mitigate impacts to groundwater by removing contaminant impacted landfill gas.

Current RWQCB Concerns

During recent meetings with County staff, RWQCB staff advised that the revised Corrective Action Work Plan based on intrinsic remediation has not resulted in satisfactorily reduced contaminant levels in groundwater at the “point of compliance” at the site. In December 2011 your Board approved \$30,000 in funding to re-evaluate a Pilot Pump and Treat System approach to accelerate reductions of the contaminants. The report concluded the most feasible approach to further reduce groundwater contaminant levels will be to develop and implement a Pump and Treat program.

At a meeting in December of 2012, RWQCB staff advised County staff to move forward as soon as possible in constructing and initiating operations of a groundwater pump and treat facility at the landfill, or face enforcement action. In subsequent correspondence with County staff, RWQCB staff has noted that violations of the landfill Waste Discharge Requirements (WDR's) subjects the County to civil liability of up to \$5,000 for each day the violation occurs per **California Water Code section 13350(a)(2) and (e)**, which is attached (Exhibit “I”).

RWQCB staff confirmed in the correspondence (Exhibit “D”, page 3) that the landfill is currently in violation of WDR No. R3-2007-0023 “Water Quality Protection Standards, D, 1 and 2 (Page 9)” (Exhibit “E”).

Project Description

A conceptual design for an effective Pump and Treat system (Exhibit “F”) consists of strategically placed extraction wells, water storage tanks, a carbon filtration system, and a system of pipelines intended to collect, and subsequently treat and dispose of the water. If so directed by your Board today, testing, design and permitting could begin within the 2013-2014 fiscal year. Provided no unanticipated permitting issues arise that could delay the project, the Pump and Treat system could be constructed in late 2015 and become operational in early 2016.

OTHER AGENCY INVOLVEMENT/IMPACT

RWQCB, the California Department of Resources and Recycling and the San Luis Obispo County Air Pollution Control District regulate and provide oversight of the landfill's operations and maintenance. County Counsel's office is aware of the RWQCB's current concerns, and is advising the Department in our effort to satisfy the regulatory requirements.

FINANCIAL CONSIDERATIONS

The anticipated capital cost for design, construction and implementation of a Pump and Treat system is estimated at \$631,000 (Engineers Estimate Exhibit “G”). If so directed today by your Board, the Public Works Department will work with the County Administrative Office to identify funding alternatives for including the project in the FY 2013-14 proposed budget. Additional recurring annual operation, maintenance and monitoring costs of \$75,000 to \$105,000 would start after year three of system start-up and continue to be required throughout the foreseeable future. Ongoing operations costs would be included in routine annual budget requests.

RESULTS

With your direction today, in an effort to satisfy regulatory requirements and to better protect public health, staff could prepare a revised recommended Corrective Action Work Plan for submittal to the RWQCB, better focused on improvements to groundwater quality at the site in compliance with the Regional Boards WDR's.

File: P050223

Reference: 13FEB26-BB-1

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ATTACHMENTS

1. Exhibit A - Site Map
2. Exhibit B - Landfill History
3. Exhibit C - Impacted Groundwater Map
4. Exhibit D - Waste Discharge Requirements
5. Exhibit E - Meeting Minutes and Email from RWQCB Staff
6. Exhibit F - Conceptual System Design and Siting Plan
7. Exhibit G - Project Engineers Estimate
8. Exhibit H - Tentative Proposed Project Schedule
9. Exhibit I - California Water Code